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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,227	04/13/2006	Riki Okamoto	52433/843	6918

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EXAMINER	
CHEN, CHRISTINE	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,227	OKAMOTO ET AL.	
	Examiner	Art Unit	
	CHRISTINE CHEN	4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *6-8 and 12-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 9-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/13/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election Acknowledged

1. Applicant's election without traverse of Group I followed by Species b in the reply filed on December 20, 2007 is acknowledged.

2. However please note, upon further examination, it was found that claims 7 and 8 are dependent on claim 6, a claim which has been withdrawn from consideration by election. As a result, claims 7 and 8 were not examined in order to expedite the process.

Status of Application

3. Claims 1-15 are pending. The claims in group I, claims 1-11, are elected, while claims 12-15 are withdrawn. Within group I, species b is elected, corresponding to claim 9. As a result, non-elected claims 6-8 are withdrawn(non-elected species). Therefore, claims 1-5 and 9-11 are presented for examination.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but

must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

2. The information disclosure statement (IDS) submitted on April 13, 2006 was filed. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutomu (JP2001-342543 hereinafter A1).

Claim 1 is drawn to a high-strength steel sheet. Tsutomu (A1) teaches a high-strength steel sheet, excellent in ductility and hole-expandability (abstract). A comparison of steel composition between the instant claim and Tsutomu's invention (A1) is shown below.

Element	Instant Claim (mass %)	Tsutomu (A1) (mass %)	Overlapping range
C	0.01-0.20	0.01-0.20	0.01-0.20
Si	≤1.5	0.3-1.5	0.3-1.5

Al	≤1.5	0.002-0.07	0.002-0.07
Mn	0.5-3.5	0.55-2.5	0.55-2.5
P	≤0.2	≤0.10	≤0.10
S	0.0005-0.009	≤0.009	0.0005-0.009
N	≤0.009	≤0.010	≤0.009
Mg	0.0006-0.01	0.0005-0.01	0.0006-0.01
O	≤0.005	0	0
Ti and/or Nb	0.01-0.20 (Ti) 0.01-0.10 (Nb)	0.003-0.25 (Ti) 0.003-0.04 (Nb)	0.01-0.20 (Ti) 0.01-0.04 (Nb)
Fe + unavoidable impurities	balance	balance	balance

In addition, the structure is mainly ferrite with a bainite residue (abstract).

In regards to equations (1) to (3) of the instant claim, there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marbug, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In addition, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art, In re Austin, et al., 149 USPQ 685,688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of C, Si, Al, Mn, P, S, N, Mg, O, Ti and/or Nb, Fe and unavoidable impurities from the

ranges disclosed by Tsutomu (A1) such that the formula would be satisfied because Tsutomu (A1) teaches the same utility throughout the disclosed ranges.

In regards to claim 2, Tsutomu's (A1) steel sheet is characterized by containing between $1.0x10^3$-$1.0x10^7$ pieces/mm^2 of composite precipitates of MgO and (Nb, Ti)N of not smaller than 0.05 μm and not larger than 5 μm (Tsutomu, A1 reference, claim 2).

In regards to claims 3 and 4, as similarly discussed previously in a response to claim 1, in regards to equation (4) of the instant claim, there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marbug, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In addition, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art, In re Austin, et al., 149 USPQ 685,688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of C, Si, Al, Mn, P, S, N, Mg, O, Ti and/or Nb, Fe and unavoidable impurities from the ranges disclosed by Tsutomu (A1) such that the formula would be satisfied because Tsutomu (A1) teaches the same utility throughout the disclosed ranges.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutomu (A1) as applied to claim 1 above and in view of Koo (US6224689 hereinafter A3) and Tsutomu (A2).

Tsutomu's invention (A1) is not drawn to a steel with a structure primarily comprising bainite and having a strength exceeding 980 N/mm^2. Koo (A3), however teaches a steel with a structure comprising predominantly fine-grained lower bainite and having a tensile strength of at least about 900 MPa or N/mm^2 (abstract).

It would have been obvious to one of ordinary skill in the art to modify Tsutomu (A1) with the structure and tensile strength taught by Koo (A3) because Koo teaches a steel with the same essential elements, C, Mn, Nb, Ti, Mg (abstract), and S (col. 5, li. 13-19). In addition, Tsutomu (A2) discloses that JP04-88125 and JP03-180426 teach hot rolled steel sheets, excellent in hole-expandability and having a structure primarily of bainite (Detailed Description section, Description of the Prior Art subsection, li. 6-9).

In addition, in regards to equations (5) to (7) of the instant claim, as similarly discussed previously in a response to claim 1, there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marbug, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In addition, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art, In re Austin, et al., 149 USPQ 685,688. It would have been obvious to one of ordinary skill in the art to select the desired amounts of C, Si, Al, Mn, P, S, N, Mg, O, Ti and/or Nb, Fe and unavoidable impurities from the

ranges disclosed by Tsutomu (A1) such that the formula would be satisfied because Tsutomu (A1) teaches the same utility throughout the disclosed ranges.

4. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutomu (A1) as applied to claim 1 above and in view of Tsutomu (2002-020838 hereinafter A2).

In regards to claim 9, Tsutomu's invention (A1) is not drawn to a steel with a structure primarily comprising ferrite and bainite and having a strength exceeding 590 N/mm^2. However, in another publication, Tsutomu (A2), teaches a steel having a ferritic and bainitic structure and having a tensile strength of 590 N/mm^2 (abstract).

It would have been obvious to one of ordinary skill in the art to modify Tsutomu (A1) with the structure and tensile strength taught by Tsutomu (A2) in another publication, because Tsutomu (A2) teaches a steel with the same essential elements, C, Mn, Nb, Ti, Mg, and S (abstract). In addition, Tsutomu (A2) discloses the same utility.

In addition, in regards to equation (8) of the instant claim, as similarly discussed previously in a response to claim 1, there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177; 57 USPQ 117, Taklatwalla v. Marbug, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In addition, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art, In re Austin, et al., 149 USPQ 685,688. It would have been

obvious to one of ordinary skill in the art to select the desired amounts of C, Si, Al, Mn, P, S, N, Mg, O, Ti and/or Nb, Fe and unavoidable impurities from the ranges disclosed by Tsutomu (A1) such that the formula would be satisfied because Tsutomu (A1) teaches the same utility throughout the disclosed ranges.

In regards to claims 10 and 11, Tsutomu (A2) discloses the process steps of rolling at a temperature of not lower than the Ar_3 transformation point, cooling at a rate of 20°C/s or more, and scraping between 350°C-600°C (Claims section, claim 5). While the process steps in the instant invention disclose coiling rather than scraping, the difference between the two is one of shape and would not change the characteristics of the steel. In addition, while the coiling of the instant invention takes place between the range of 300°C-600°C, a large portion of the range 350°C-600°C is disclosed by Tsutomu (A2). Being that exceedingly similar process steps are taught by Tsutomu (A2) it is obvious that the steel product produced by the process would have the same characteristics, such as those described in claims 10 and 11 of the instant invention.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE CHEN whose telephone number is (571)270-3590. The examiner can normally be reached on Monday-Friday 8:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CC

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4116